

CHAPTER TWELVE

REAR AXLE, SUSPENSION AND FINAL DRIVE

This chapter contains repair and replacement procedures for the rear axle, suspension and final drive unit. During inspection, compare measurements to the specifications in **Table 1**. Replace any part that is damaged or out of specification. During assembly, tighten fasteners as specified in **Table 2**. **Table 1** and **Table 2** are at the end of this chapter.

SHOCK ABSORBER

Removal/Installation

1. Raise the vehicle until the rear wheels just clear the ground. Use jack stands to securely support the vehicle.
2. Remove and discard the nut (**Figure 1**) from the upper mounting bolt.
3. Remove the upper shock mounting bolt. If necessary, raise or lower the vehicle to minimize the weight on the upper shock bolt.
4. Remove the shock absorber lower mounting bolt (**Figure 2**) and shock absorber.
5. Inspect the shock absorber as described in this section.
6. Install the shock absorber by reversing these removal steps. Note the following:

WARNING

Self-locking nuts must be replaced when they are removed. The self-locking portion of the nut is weakened once the nut is removed and no longer properly locks onto the mating threads.

 - a. Install a *new* self-locking nut on the upper mounting bolt.
 - b. Tighten the upper mounting nut and lower mounting bolt to 44 N•m (32 ft.-lb.) and 54 N•m (40 ft.-lb.), respectively.

Inspection

The shock absorber is spring-controlled and hydraulically damped. It cannot be serviced. If any part is damaged, replace the shock absorber.

1. Clean and dry the shock absorber.
2. Check the damper unit (**Figure 3**) for leaks or other damage.
3. Inspect the upper and lower shock bushings for deterioration, excessive wear or other damage.



4. Inspect the shock spring for cracks or other signs of damage.

REAR AXLE

Removal

Refer to **Figure 4**.

1. Remove both rear wheels and hubs as described in Chapter Ten.

2. Remove the rear brake panel and brake drum as described in Chapter Thirteen.
3. Pull the axle from the right side. If necessary, tap the left end of the axle with a plastic mallet (**Figure 5**).
4. Inspect the rear axle as described in this section.

Installation

1. Apply molybdenum disulfide grease to the axle splines.
2. Align the splines on the rear axle with those in the final drive housing, and install the rear axle from the right side. If necessary, tap the right side of the axle with a plastic mallet until the axle bottoms in the final drive.
3. Install the brake drum and brake panel (Chapter Thirteen).
4. Install the rear hubs and wheels (Chapter Ten).

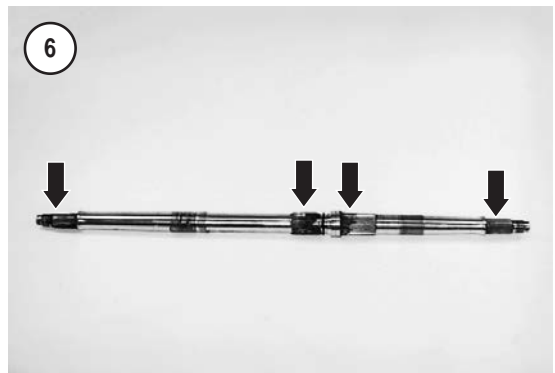
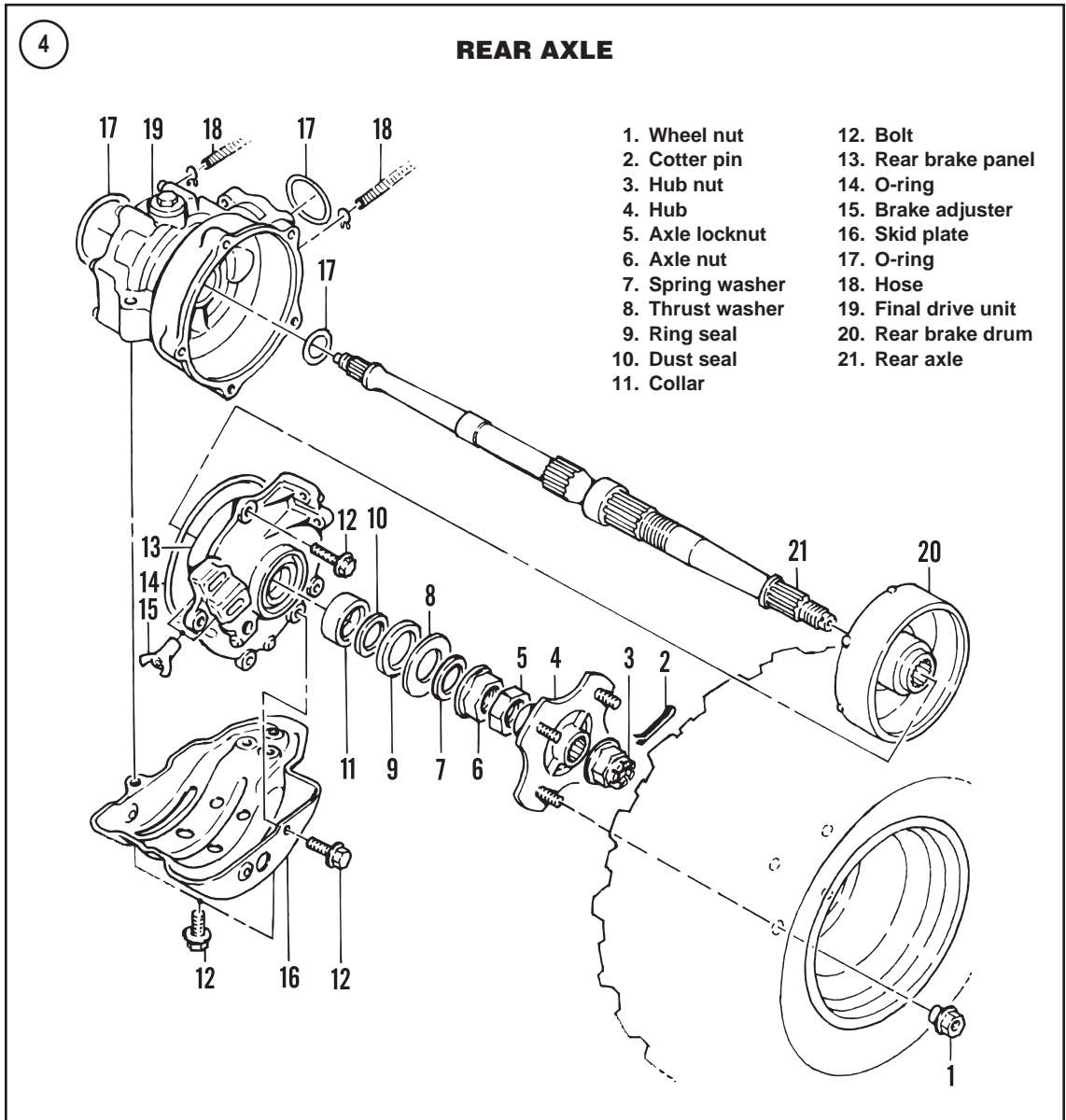
Inspection

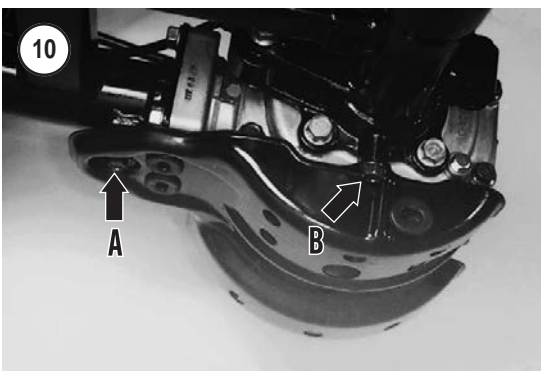
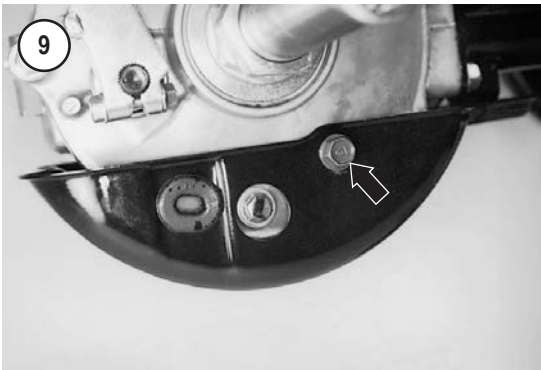
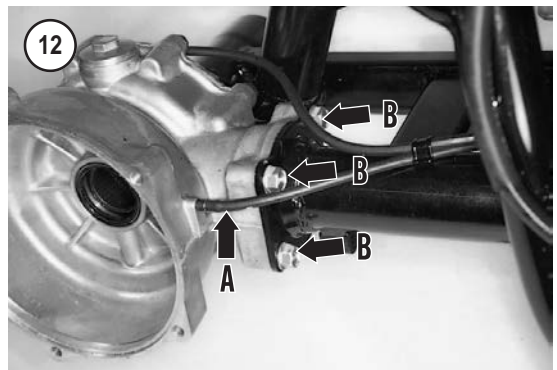
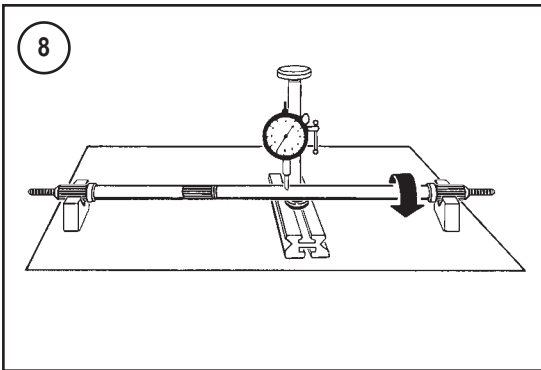
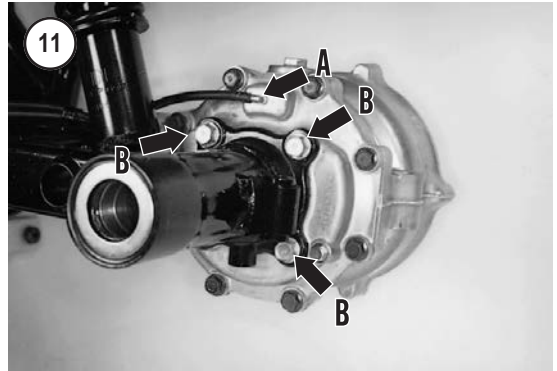
1. Clean and dry the rear axle.
2. Inspect the axle splines (**Figure 6**) for twisting or other damage. Replace the axle if damage is noted.
3. Remove and replace the axle O-ring (**Figure 7**).
4. Check the axle cotter pin holes. Replace the axle if either hole is cracked, enlarged or damaged.
5. Place the rear axle on a set of V-blocks and measure runout with a dial indicator (**Figure 8**). Replace the rear axle if the runout exceeds the service limit in **Table 1**.

FINAL DRIVE

Removal

1. Remove the rear axle as described in this chapter.
2. Remove the right skid plate bolt (**Figure 9**).
3. Remove the front skid plate bolt (A, **Figure 10**) and the bolt (B), and then lower the skid plate from the final drive.
4. Drain the final drive oil as described in Chapter Three.
5. Support the final drive with a jack or wooden blocks.
6. Disconnect the breather hose (A, **Figure 11**) from on the left side of the final drive.





7. Remove the four final drive mounting bolts (B, **Figure 11**) from the left side.

8. Disconnect the breather hose (A, **Figure 12**) from the right side of the final drive.

9. Remove the four final drive mounting bolts (B, **Figure 12**) from the front of the unit, and remove the final drive. Watch for the spring in the end of the drive shaft (**Figure 13**).

10. Remove and discard the two O-rings (A, **Figure 14**) from the final drive.

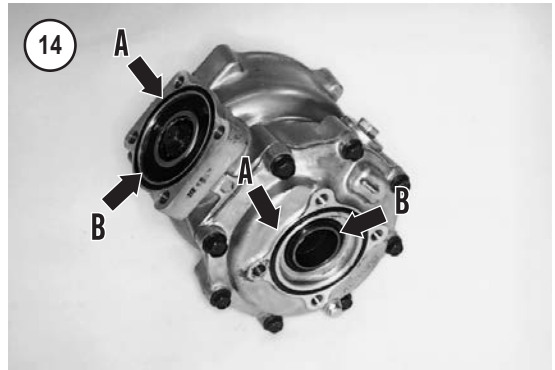
11. Inspect the final drive as described in this section.

Installation

1. Lubricate two new O-rings with lithium grease. Install each O-ring (A, **Figure 14**) into its groove in the final drive.
2. Lubricate the drive shaft spring with molybdenum disulfide grease and insert it into the end of the drive shaft (**Figure 13**).
3. Apply molybdenum disulfide grease to the splines of the pinion.
4. Set a wooden block onto the jack pad and place the final drive on the block.
5. Raise the jack and align the pinion with the splines on the drive shaft (**Figure 15**).
6. Install the final drive onto the swing arm so the pinion gear splines properly engages the drive shaft.
7. Install and finger-tighten the four mounting bolts (B, **Figure 12**) on the front of the final drive.
8. Reconnect the breather tube (A, **Figure 12**) to the fitting on the right side of the final drive.
9. Reconnect the breather tube (A, **Figure 11**) onto the left side of the final drive.
10. Install the four mounting bolts (B, **Figure 11**) on the left side of the final drive. Tighten the left bolts to 54 N•m (40 ft.-lb.).
11. Tighten the front mounting bolts (B, **Figure 12**) to 54 N•m (40 ft.-lb.).
12. Install the skid plate. Tighten the skid plate bolts to 32 N•m (24 ft.-lb.).
13. Install the rear axle as described in this chapter.
14. Refill the final drive with the recommended type and quantity of oil as described in Chapter Three.

Inspection

1. Check the final drive unit for oil leaks, cracks or other damage.
2. Inspect the exposed splines for excessive wear or damage.
3. Inspect the threaded holes for damage. Repair minor thread damage with a metric tap.
4. Inspect the O-rings (A, **Figure 14**) and oil seals (B) for wear, hardness and deterioration.
5. Turn the pinion gear (**Figure 16**) by hand. It should turn smoothly. If there is roughness or noise, refer to *Overhaul* in this section.

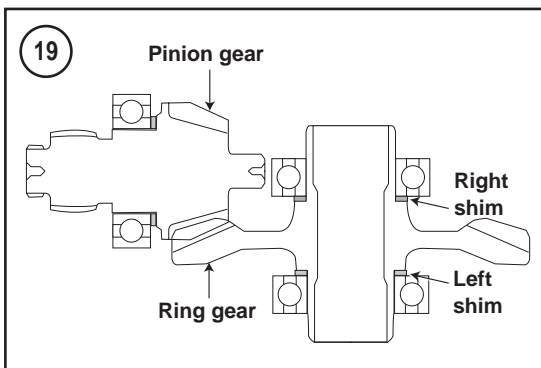
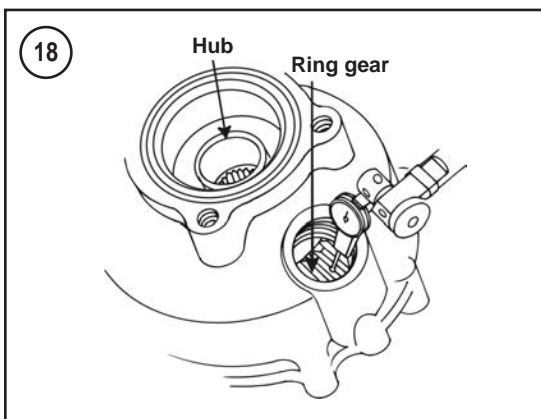
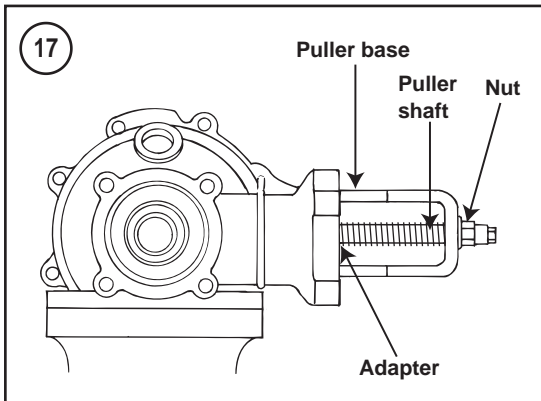


Overhaul

Tools

The following Honda special tools are recommended when servicing the final drive:

1. Pinion puller base (part No. 07HMC-MM80011A).
2. Puller shaft (part No. 07931-ME4010B).
3. Adapter (part No. 07YMF-HN4010A).
4. Special nut (part No. 07931-HB3020A).
5. Locknut wrench (part No. 07916-MB00002).



6. Pinion bearing ring compressor tool (part No. 07YME-HN4010A).

Backlash measurement/adjustment

Perform gear backlash measurement before disassembly to determine if there is gear wear. Measuring gear backlash is also necessary after overhaul. If the backlash measurement is not within specifica-

tion, the internal shim thicknesses need to be adjusted.

1. Install the pinion puller base, puller shaft, adapter and special nut, as shown in **Figure 17**, so the pinion end play is removed and the pinion cannot rotate.
2. Place the final drive in a soft-jawed vice.
3. Remove the oil fill cap.
4. Insert a tool into the center splines of the ring gear hub so the ring gear can be rotated.
5. Position a dial indicator so the tip rests against a gear tooth (**Figure 18**).
6. To determine the gear backlash, gently rotate the ring gear while reading the dial indicator. Refer to **Table 1** for the specified backlash.
7. Remove the dial indicator, rotate the ring gear and take two additional backlash readings 120° from the original measuring point. If the difference between any two readings exceeds 0.2 mm (0.008 in.), note the following:
 - a. The gear assembly is not square in the case, which may be due to the incorrect seating of a bearing.
 - b. The housing may be deformed.
8. To correct the gear backlash, refer to **Figure 19** and note the following:

NOTE

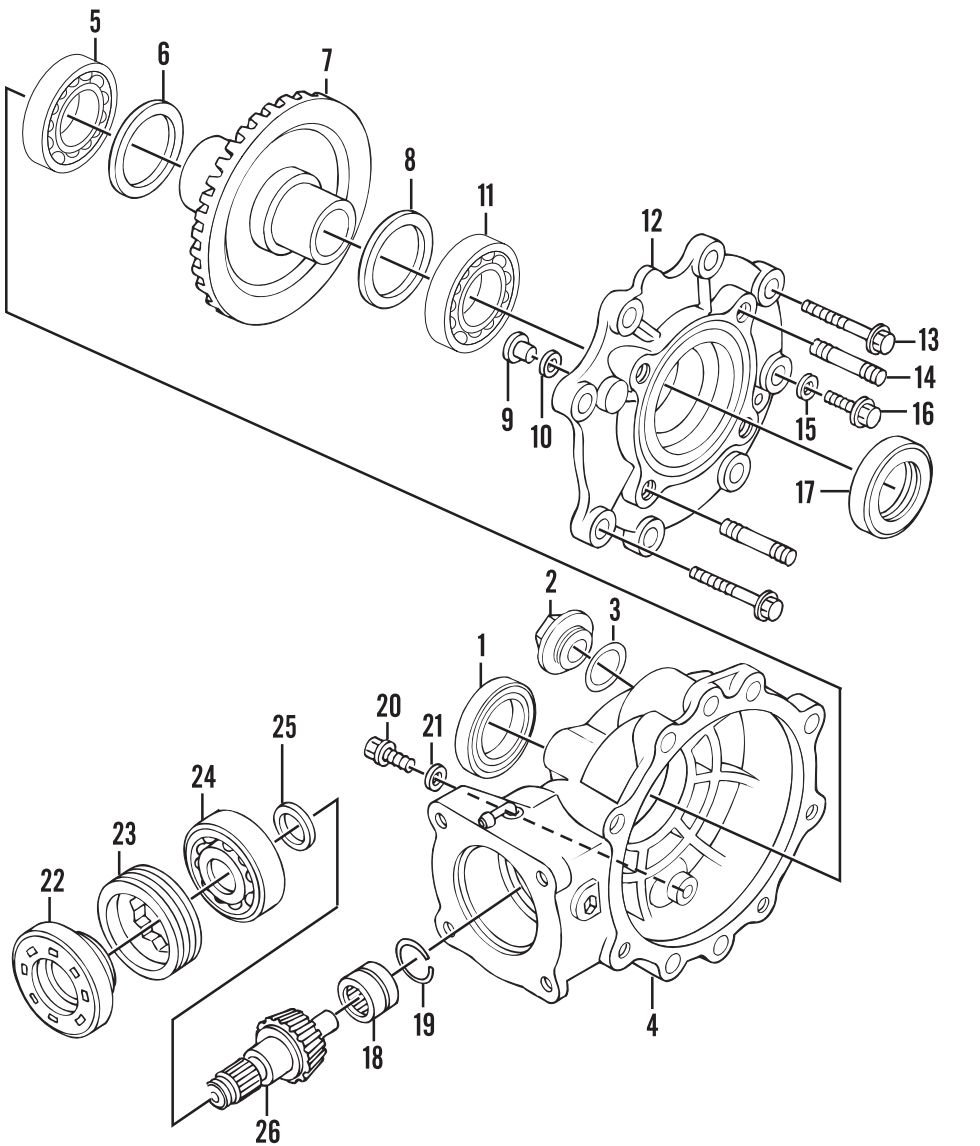
When adjusting shim thickness, adjust the sides equally. For example, if the right shim is increased 0.10 mm (0.004 in.), decrease the left shim 0.10 mm (0.004 in.). Changing a shim thickness by 0.12 mm (0.005 in.) changes backlash 0.06 mm (0.002 in.).

- a. If gear backlash is less than the desired specification, reduce the thickness of the left shim and increase the thickness of the right shim.
- b. If gear backlash is greater than the desired specification, reduce the thickness of the right shim and increase the thickness of the left shim.

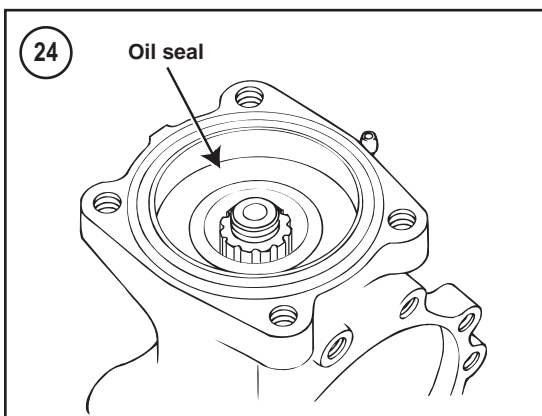
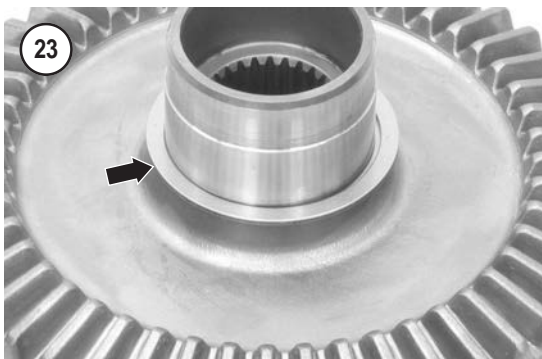
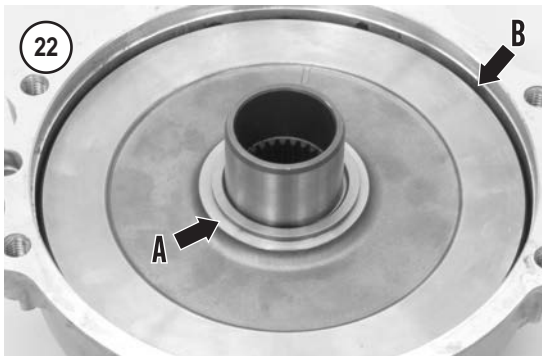
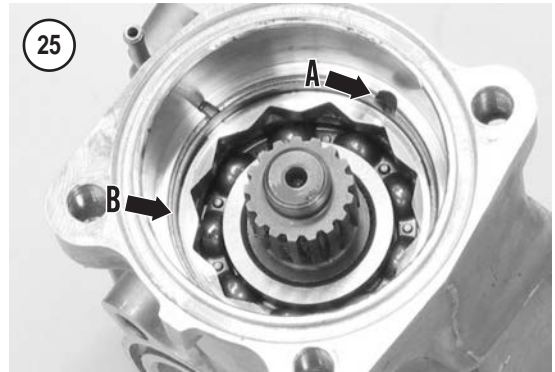
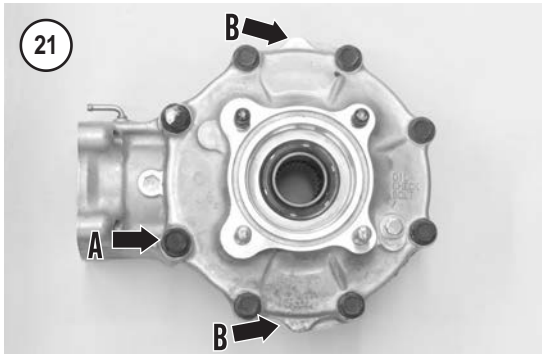
Disassembly

If the pinion gear, ring gear, gearcase, case cover, side bearings or pinion shaft bearing are replaced, perform the backlash and gear mesh pattern measurements before disassembly. If the oil seals or case cover seal need to be replaced, it is not necessary if the unit is otherwise operating correctly.

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FINAL DRIVE

- | | |
|-----------------|--------------------|
| 1. Oil seal | 14. Stud |
| 2. Oil fill cap | 15. Washer |
| 3. O-ring | 16. Oil level bolt |
| 4. Gearcase | 17. Oil seal |
| 5. Bearing | 18. Needle bearing |
| 6. Side shim | 19. Stopper ring |
| 7. Ring gear | 20. Oil drain bolt |
| 8. Side shim | 21. Washer |
| 9. Stop pin | 22. Oil seal |
| 10. Shim | 23. Locknut |
| 11. Bearing | 24. Bearing |
| 12. Cover | 25. Pinion shim |
| 13. Bolt | 26. Pinion gear |



The final drive unit (**Figure 20**) requires a number of special tools for disassembly, inspection and reassembly. The price of these tools could be more than the cost of most repairs performed at a dealership. Read the procedure and determine the cost before undertaking the repair.

1. Remove the cover retaining bolts in a crossing pattern (A, **Figure 21**).
2. Insert a prying tool in the gaps between the gearcase and cover (B, **Figure 21**) and pry the cover off the gearcase.
3. Note the left-side shim on the ring gear (A, **Figure 22**). Remove the shim, label it and set it aside.
4. Remove the ring gear (B, **Figure 22**).
5. Note the right-side shim on the ring gear (**Figure 23**). Remove the shim, label it and set it aside.
6. Using a suitable seal puller, remove the oil seal (**Figure 24**).
7. Rotate the pinion shaft and check for noisy or rough pinion bearings.

NOTE

Cover the internal parts when unstaking the locknut in Step 8 to prevent the entry of metal debris.

8. Using a grinder or metal removal tool, remove the staked portion of the locknut (A, **Figure 25**).
9. Using the locknut wrench remove the locknut (B, **Figure 25**).
10. Assemble the tools as shown in **Figure 26**, and remove the pinion and bearing assembly.

Inspection

1. Clean and inspect all components for excessive wear and damage. Carefully remove gasket material from the mating surfaces on the gearcase and cover.

2. Remove the oil seals in the gearcase and cover using a suitable seal removal tool. Install a new oil seal so the closed side is out (**Figure 27**).

3. Turn the bearings (A, **Figure 28**) in the final drive and cover by hand. The bearings should turn freely and without any sign of roughness, catching or excessive noise. Replace the damaged bearings as described in Chapter One. The bearing must bottom in the final drive or cover bore.

4. Inspect the ring gear and hub (**Figure 29**). Inspect the gear teeth, splines and seal running surfaces on the hub. Replace them if they are excessively worn or damaged.

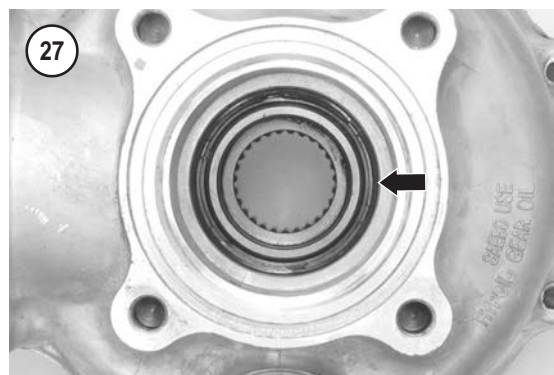
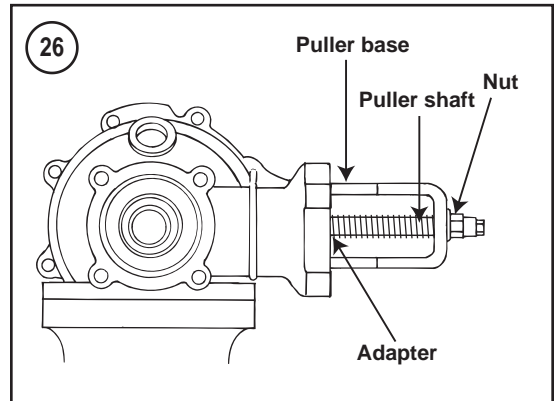
5. Inspect the pinion needle bearing (A, **Figure 30**). If it is damaged, replace the bearing using the following procedure:

- a. Rotate the pinion needle bearing until the end of the wire stopper ring is visible through the access hole. Use a punch to bend the ring upward by striking it near the end. Grip the end of the wire stopper retainer ring using needlenose pliers and pull it out through the access hole (B, **Figure 30**).

CAUTION

Do not use a flame to heat the gearcase; it can warp the final drive.

- b. Heat the gearcase in an oven to 80° C (176° F) and extract the bearing.
 - c. Install a new wire ring into the groove on the outside of the new bearing.
 - d. Install the bearing and ring into the ring compressor tool.
 - e. Place the compressor tool with the bearing into the freezer for at least 30 minutes.
 - f. Heat the gearcase in an oven to 80° C (176° F).
 - g. Position the compressor in the gearcase and drive the bearing in the final drive. Only one blow should be required. Multiple blows may dislodge the wire ring, which requires the installation of a new ring and bearing. Make sure the wire ring is properly positioned as viewed in the access hole (B, **Figure 30**).
6. Inspect the pinion gear and bearing. If the bearing must be replaced, replace it as follows:
- a. Using a press or a puller, remove the bearing from the pinion shaft.
 - b. If only the bearing is being replaced, use the original shim on the pinion shaft. If the gearcase cover or gearcase, ring and pinion



gears or the side bearings are being replaced, install a 2.0 mm (0.79 in.) thick shim as a starting point for the gear position adjustments.

- c. Press or drive the new bearing onto the pinion shaft so the marked side of the bearing is toward the threaded end of the shaft.

7. Check the ring gear side clearance using the following procedure:



- d. Install or remove shims as necessary to obtain the desired clearance.
- e. Drive the stop pin into the cover and recheck the clearance.

Assembly

Refer to **Figure 20**.

NOTE

Lubricate all moving parts with SAE 80 hypoid gear oil.

1. Install the pinion gear and bearing into the gearcase.

NOTE

*The torque wrench attachment point on the Honda tool specified in Step 2 increases wrench leverage. The actual torque is 98 N•m (72 ft.-lb.). Refer to **Torque Adapter** in Chapter One.*

2. Install the locknut (B, **Figure 25**). Using the locknut wrench, tighten the locknut to 89 N•m (66 ft.-lb.) as indicated on the torque wrench.

NOTE

Do not stake the locknut when performing the gear mesh pattern check in Step 3. The pinion gear may still need to be reshimm.

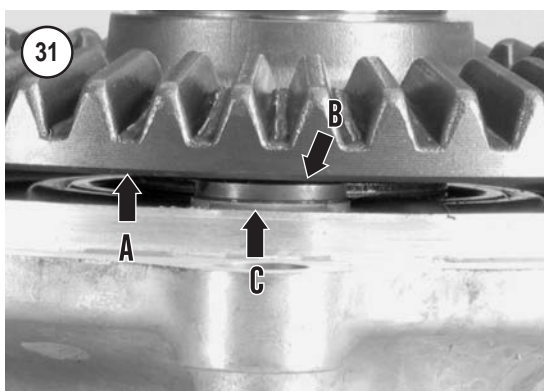
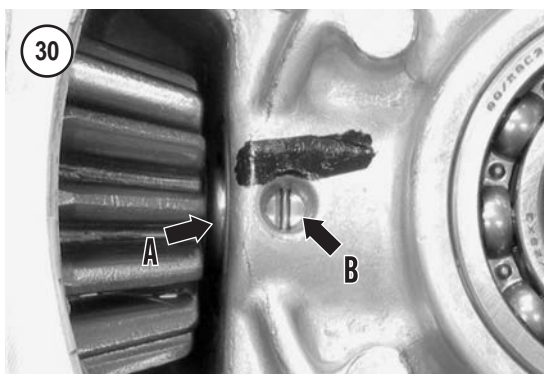
3. If the pinion, ring gear, bearings, housing or cover have been replaced, check the gear mesh pattern using the following procedure:

- a. Apply a Prussian Blue or other gear marking compound to the ring gear teeth.
- b. Install the side shims (6 and 8, **Figure 20**) onto the ring gear, and then install the ring gear into the final drive.
- c. Install the cover on the gearcase.

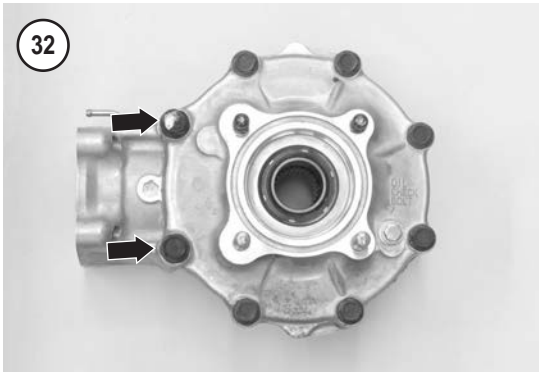
NOTE

While tightening the cover bolts in substep d, rotate the pinion shaft.

- d. Install the cover bolts. Install the two 10-mm bolts in the locations shown in **Figure 32**. Tighten the bolts evenly in a crossing pattern in several steps until the cover is seated. Tighten the 8-mm bolts to 25 N•m (18 ft.-lb.). Tighten the 10-mm bolts to 49 N•m (36 ft.-lb.).
- e. Remove the oil fill cap.



- a. Install the ring gear and side shim into the cover.
- b. Using a feeler gauge, measure the clearance between the ring gear (A, **Figure 31**) and the stop pin (B). Refer to **Table 1** for the recommended clearance. The shim (C, **Figure 31**) under the stop pin is used to adjust the clearance.
- c. To adjust the clearance, heat the cover in an oven to 80° C (176° F). Remove the stop pin (B, **Figure 28**).

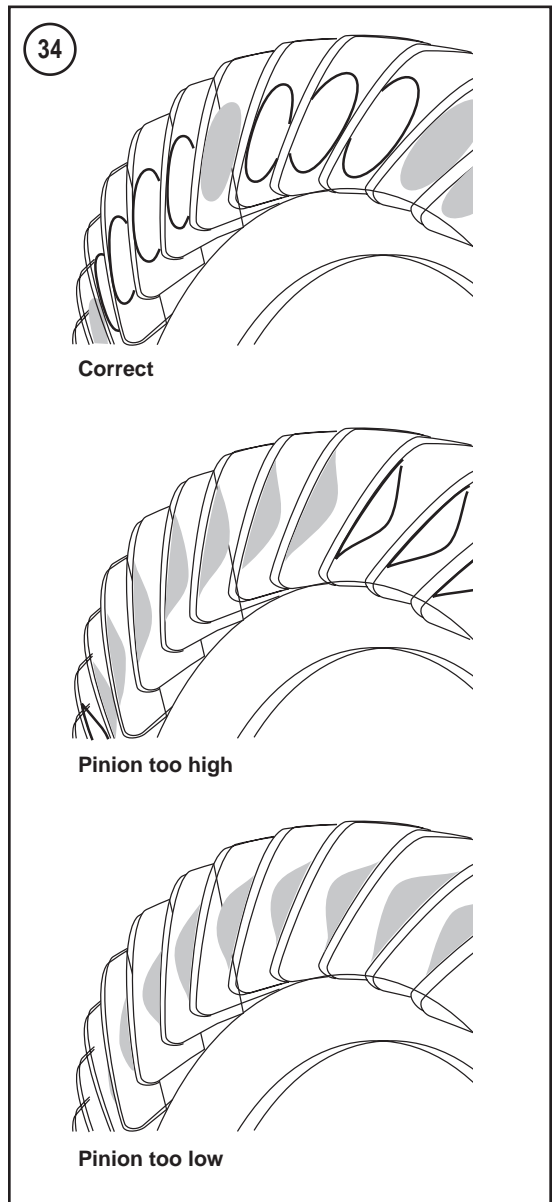


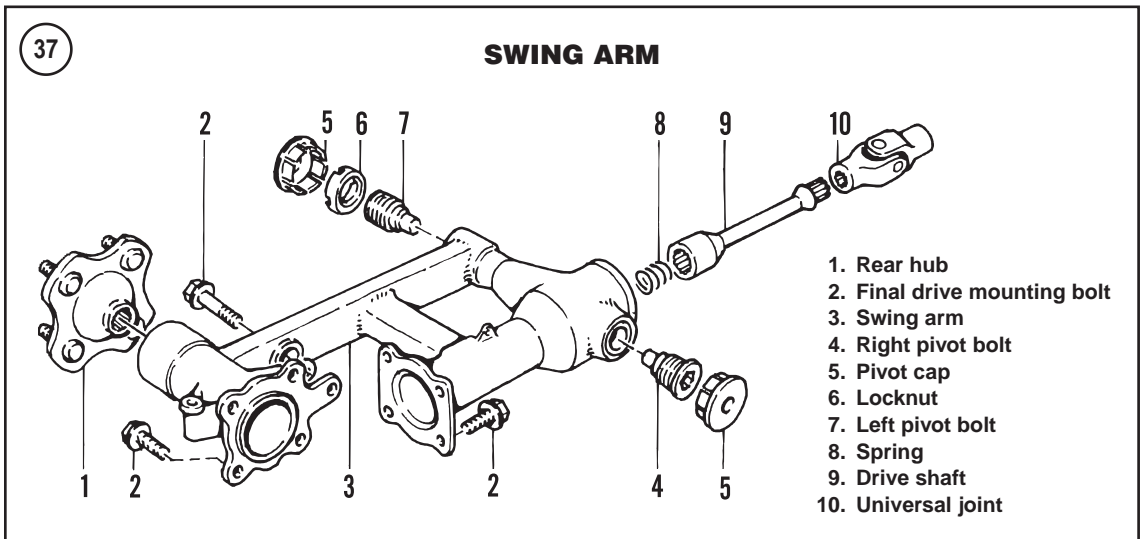
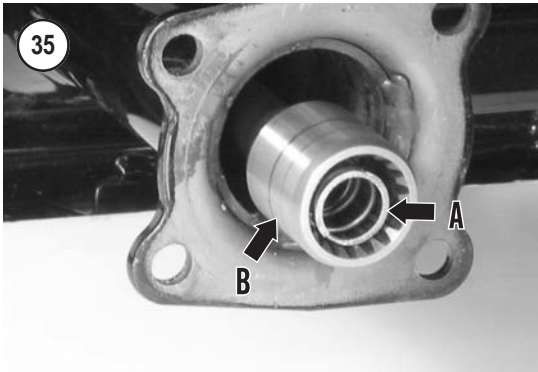
- f. Rotate the pinion shaft several rotations so a pattern is evident on the ring gear teeth. View the ring gear teeth through the oil fill hole (**Figure 33**).
 - g. Refer to the typical gear patterns in **Figure 34**. If the pinion is low, install a thinner pinion shim (25, **Figure 20**). If the pinion is high, install a thicker shim. The pinion and bearing must be removed to replace the shim. Changing the shim thickness 0.12 mm (0.005 in.) moves the contact pattern approximately 0.5-1.0 mm (0.02-0.04 in.).
 - h. Reinstall the pinion gear and bearing, if they were removed, as described in Step 10 and Step 11.
 - i. After obtaining a satisfactory gear contact pattern, check the gear backlash.
 - j. Remove the cover and continue with the final assembly procedure.
4. Stake the pinion locknut (A, **Figure 25**) into the notch in the final drive housing.
 5. Install the oil seal (**Figure 24**) so it is bottomed. Lubricate the oil seal lips with grease.
 6. Install the side shims (6 and 8, **Figure 20**) onto the ring gear.
 7. Install the ring gear into the housing.
 8. Apply a liquid sealant, such as Yamabond No. 4, to the mating surface of the cover and then install the cover.

NOTE

While tightening the cover bolts in Step 9, rotate the pinion shaft.

9. Install the cover bolts. Install the two 10-mm bolts in the locations shown in **Figure 32**. Tighten the bolts evenly in a crossing pattern in several steps until the cover is seated. Tighten the 8-mm bolts to





25 N•m (18 ft.-lb.). Tighten the 10-mm bolts to 49 N•m (36 ft.-lb.).

10. Make sure the gears rotate freely without binding.

DRIVESHAFT

Removal/Inspection/Installation

1. Remove the final drive unit as described in this chapter.
2. Remove the spring in the end of the driveshaft (A, **Figure 35**).
3. Remove the driveshaft (B, **Figure 35**).
4. Inspect the splines and seal contact surface on the driveshaft (**Figure 36**). Replace the driveshaft if it is excessively worn or damaged.
5. Before installation, apply molybdenum disulfide grease to the splines of the driveshaft.

6. Insert the driveshaft into the splines of the universal joint. Make sure the driveshaft is fully seated in the universal joint.

7. Install the spring into the end of the driveshaft (A, **Figure 35**).

8. Install the final drive unit as described in this chapter.

SWING ARM

Bearings are pressed into both sides of the swing arm, and seals are installed on the outside of each bearing to keep dirt and moisture out of the bearings.

Refer to **Figure 37**.

Tools

The Honda swing arm locknut wrench (part No. 07908-4690003 [A, **Figure 38**]) and a 17-mm Allen



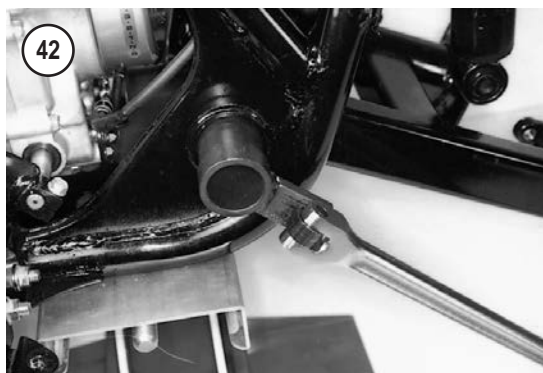
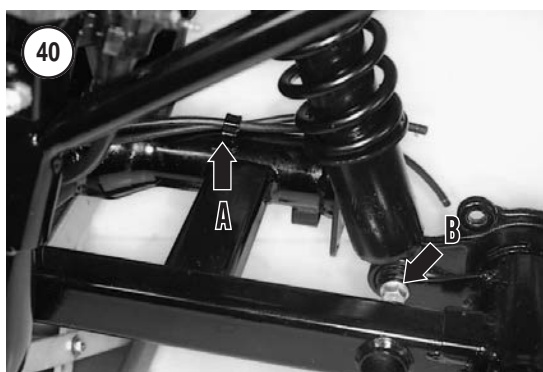
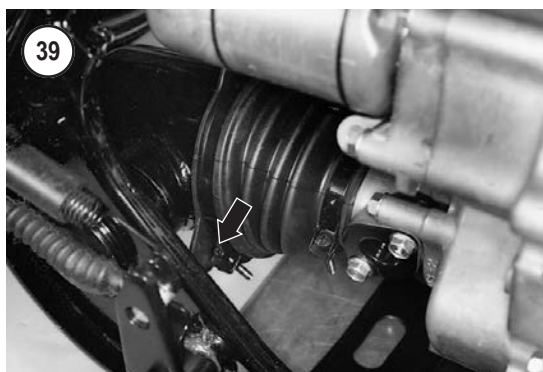
socket (B) are required to remove and install the swing arm.

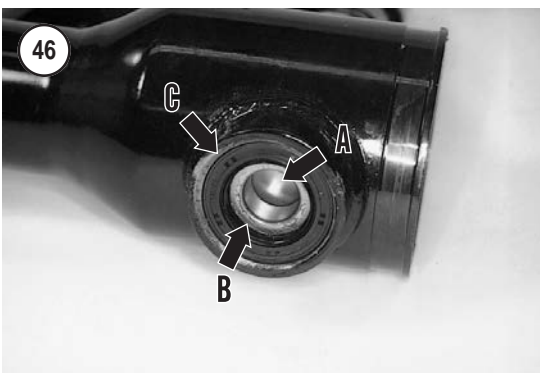
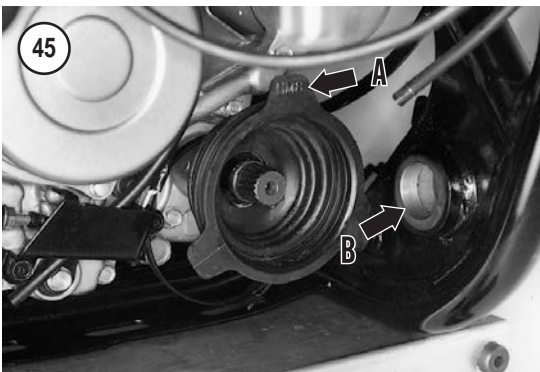
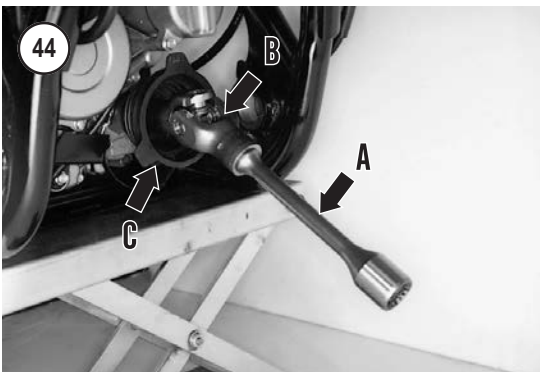
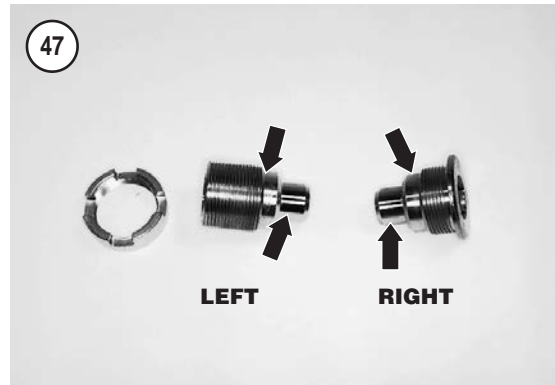
Swing Arm Removal

1. Remove the rear mud guards as described in Chapter Fourteen.
2. Remove the rear axle and final drive unit as described in this chapter.
3. Use a jack or wooden blocks to support the frame directly below the swing arm pivots.
4. Loosen the clamp (**Figure 39**) on the swing arm boot.
5. Release the breather hoses from the clamp (A, **Figure 40**) on the swing arm.
6. Remove the lower shock absorber mounting bolt (B, **Figure 40**).
7. Remove the pivot cap and right pivot bolt (**Figure 41**).
8. Remove the pivot cap and use the swing arm locknut wrench to remove the locknut from the left pivot bolt (**Figure 42**).
9. Remove the left pivot bolt (**Figure 43**) and pull the swing arm from the frame.
10. Remove the drive shaft (A, **Figure 44**) and universal joint (B) if they did not come off with the swing arm.
11. If necessary, loosen the remaining clamp and remove the boot (A, **Figure 45**) from the countershaft protector.

Swing Arm Installation

1. If removed, install the boot onto the countershaft protector. Position the boot so the tab marked HM8 faces up (A, **Figure 45**).





2. Lubricate the splines of the universal joint and drive shaft with molybdenum disulfide grease.
3. Install the universal joint (B, **Figure 44**) and drive shaft (A) onto the countershaft. Make sure the spring is installed in the end of the drive shaft.
4. Pack the grease retainer (A, **Figure 46**) and bearing (B) in each end of the swing arm bore with grease.
5. Slide the swing arm over the drive shaft and position the swing arm in the frame.
6. Raise the rear of the swing arm and secure the lower shock mount to the swing arm. Install the lower shock mounting bolt (B, **Figure 40**). Finger-tighten the bolt.

CAUTION

Do not apply grease to the pivot bolt threads. This causes the bolts to overtighten.

7. Apply grease to the shaft and shoulder on the end of each pivot bolt. Refer to **Figure 47**. Do not apply grease to the bolt threads.
8. Install and finger-tighten the right pivot bolt (**Figure 41**).
9. Install the left pivot bolt, and loosely install the locknut onto the left pivot bolt. Refer to **Figure 48**.
10. Tighten the right pivot bolt to 113 N•m (83 ft.-lb.), and then tighten the left pivot bolt to 4 N•m (35 in.-lb.).
11. Move the swing arm up and down through several strokes.
12. Retighten the left pivot bolt to 4 N•m (35 in.-lb.).

NOTE

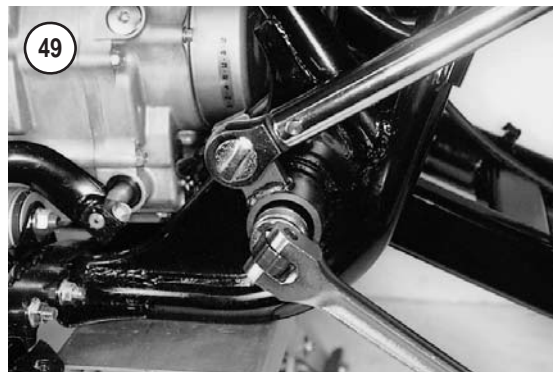
Because the swing arm locknut wrench changes the effective length of

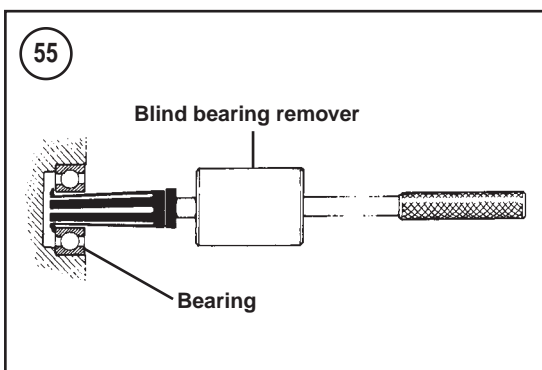
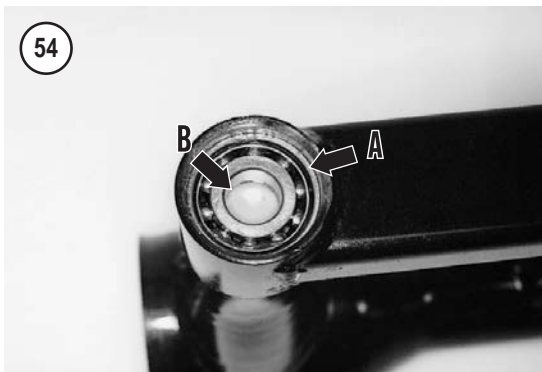
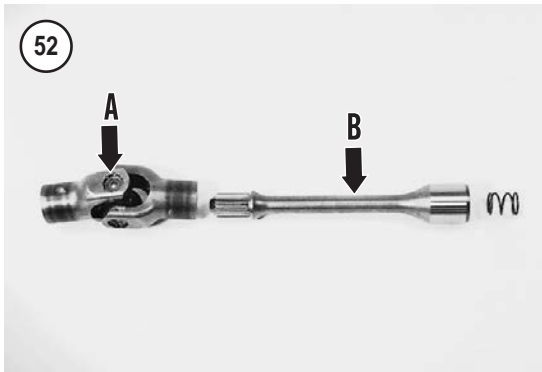
*the torque wrench, an adjusted torque setting must be used to compensate for the change in lever length. Refer to **Torque Adapters** in Chapter One to determine the adjusted torque setting needed to tighten the bolt to specification.*

13. Hold the left pivot bolt with the Allen socket and use the swing arm locknut wrench (**Figure 49**) to tighten the locknut to 113 N•m (83 ft.-lb.).
14. Install the swing arm pivot caps.
15. Tighten the lower shock mounting bolt to 54 N•m (40 ft.-lb.).
16. Secure the breather hoses in the clamp (A, **Figure 40**) on the swing arm.
17. Fit the boot over the swing arm and tighten the boot clamp (**Figure 39**).
18. Install the final drive unit and the axle as described in this chapter.
19. Install the rear mud guards (Chapter Fourteen).

Swing Arm Inspection

1. If still installed, remove the universal joint and drive shaft from the swing arm.
2. Clean and dry the swing arm and its components.
3. Inspect the welded sections on the swing arm for cracks or other damage.
4. Remove the dust seals (C, **Figure 46**) with a seal removal tool.
5. Inspect each pivot bearing by performing the following:
 - a. Inspect the bearing for excessive wear, pitting or other visual damage.
 - b. Make sure the bearing fits tightly in the swing arm bore.
 - c. Check the movement of the inner race (B, **Figure 46**). It should turn smoothly.
 - d. If necessary, replace the bearings as described in this section.
6. Check that each grease retainer (A, **Figure 46**) fits tightly in its swing arm bore.
7. Inspect the pivot bolts (**Figure 47**) for excessive wear, thread damage or corrosion. Make sure the machined end on each pivot bolt is smooth. Replace if necessary.
8. Check the threaded holes (B, **Figure 45**) in the frame for corrosion or damage.
9. Replace the boot (A, **Figure 45**) if it is damaged.





10. Inspect the axle bearing oil seal (**Figure 50**) for damage or signs of leaks.

11. Turn the axle bearing inner race. It should turn smoothly. Replace the axle bearing as necessary.

12. Make sure the axle bearing race fits tightly in the housing bore. Replace the bearing if necessary.

Drive Shaft and Universal Joint Inspection

1. If still installed, remove the spring (**Figure 51**) from the end of the drive shaft. Inspect the spring for cracks or other signs of fatigue.

2. Check that the universal joint (A, **Figure 52**) pivots smoothly with no binding or roughness.

3. Inspect the splines in both ends of universal joint. If these splines are damaged, inspect the splines in the drive shaft and transmission counter-shaft for damage.

4. Check the drive shaft (B, **Figure 52**) for bending, spline damage or other damage.

Pivot Bearing Replacement

Replace the left and right side bearings as a set.

1. Support the swing arm in a vise with soft jaws.

2. Pry out the dust seals with a seal remover (**Figure 53**).

3. Remove each bearing (A, **Figure 54**) with a blind bearing remover (**Figure 55**).

4. Check the grease retainer (B, **Figure 54**) for looseness or damage. If necessary, replace the retainer by performing the following:

- Drill a suitable size hole through one of the grease retainers.
- Insert a drift through this hole and drive out the opposite grease plate.
- Insert a drift through the open side of the swing arm pivot, and drive out the remaining grease retainer.
- Drive a new grease retainer into each side of the swing arm.

5. Lubricate the new bearings with grease.

6. Drive a new bearing (**Figure 56**) into each side of the swing arm. Use the appropriate size bearing driver or socket so pressure is applied only on the outer bearing race. Install both bearings with the manufacturer's marks facing out.

7. Apply grease to the lips of new dust seals, and install them into the swing arm with the closed sides facing out (C, **Figure 46**).

Axle Bearing Replacement

1. Pry the oil seal (**Figure 50**) from the bearing housing with a seal remover.
2. Remove the snap ring from the bearing housing.
3. Drive the bearing out of the left side of the bearing housing.
4. Pack the open side of the bearing with molybdenum disulfide grease.
5. Install the bearing with the appropriate size bearing driver or socket. Drive the axle bearing into the housing until the bearing is set to the depth specified in **Table 1**. Make sure the sealed side of the bearing faces in. Refer to **Figure 56**.
6. Install the snap ring so it is completely seated in the groove in the bearing housing.
7. Apply grease to a new oil seal, and drive the seal into place with the appropriate size driver or socket.

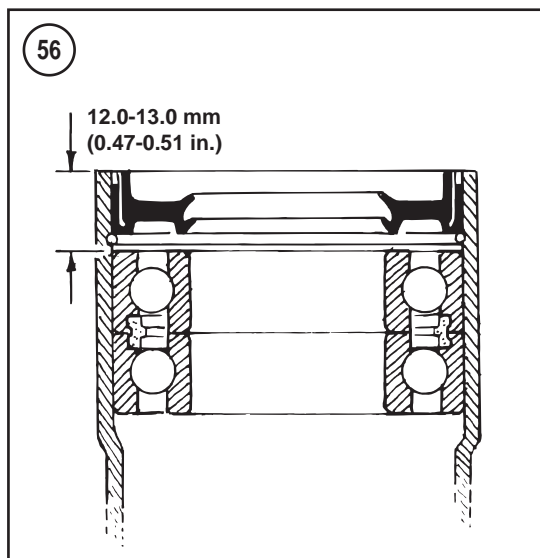


Table 1 REAR SUSPENSION AND FINAL DRIVE SPECIFICATIONS

Rear suspension	Swing arm
Wheel travel	125 mm (4.9 in.)
Rear damper	Double tube
Rear axle runout service limit	3.0 mm (0.12 in.)
Final drive gear backlash	
New	0.05-0.25 mm (0.002-0.010 in.)
Service limit	0.40 mm (0.016 in.)
Axle bearing depth	12.0-13.0 mm (0.47-0.51 in.)

Table 2 REAR SUSPENSION AND FINAL DRIVE TORQUE SPECIFICATIONS

Item	N•m	in.-lb.	ft.-lb.
Final drive cover bolts			
8 mm	25	—	18
10 mm	49	—	36
Final drive mounting bolts	54	—	40
Final drive oil drain bolt	12	106	—
Final drive oil cap	12	106	—
Final drive oil check bolt	12	106	—
Pinion gear locknut*	98	—	72
Shock absorber lower mounting bolt	54	—	40
Shock absorber upper mounting nut	44	—	32
Skid plate bolts	32	—	24
Swing arm left pivot bolt	4	35	—
Swing arm left pivot locknut	113	—	83
Swing arm right pivot bolt	113	—	83
*See text.			

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